

[Federal Register: June 1, 1994]

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DEPARTMENT OF ENERGY

Office of Policy, Planning, and Program Evaluation

Guidelines for **Voluntary Reporting** of Greenhouse Gas Emissions
and Reductions, and Carbon Sequestration

AGENCY: U.S. Department of Energy (DOE).

ACTION: Notice of availability of draft guidelines and request for
comment and notice of public hearing.

SUMMARY: Pursuant to section 1605(b) of the Energy Policy Act of 1992,
the Department of Energy is developing guidelines for the **voluntary
reporting** of greenhouse gas emissions, their reduction, and carbon
fixation achieved through any measure. The data will be reported on
forms to be developed by the Energy Information Administration (EIA)
and entered into an EIA database.

The guidelines provide for the **voluntary** and accurate **reporting** of
greenhouse gas emissions and reductions, and of carbon sequestration.
The guidelines and supporting materials assist parties in analyzing
activities and determining emissions and reductions and carbon
sequestration in order to voluntarily report this data. EIA will
develop **reporting** forms consistent with the guidelines. Draft
guidelines and supporting materials are available for public review and
comment.

DATES: Written comments on the draft guidelines and supporting
materials (10 copies) are due on or before August 1, 1994. DOE does not
anticipate extending this date. A public hearing will be held on June
29, 1994, beginning at 8:30 a.m. at the address listed below. If
necessary to accommodate requests to speak, the hearing will continue
on June 30, 1994. Requests to speak must be received by the Department
on or before June 22, 1994.

ADDRESSES: Written comments (10 copies) should be submitted to: U.S.
Department of Energy, Office of Policy, PO-63/VRP NOA, Docket No. PO-
VR-94-101, room 4G-036, 1000 Independence Ave., SW., Washington, DC
20585.

A copy of the draft guidelines and supporting materials may be
obtained by telephone request to (301) 601-8284. Requests to speak at
the hearing should be made by telephone at (301) 601-8284.

The public hearing will be held at The Holiday Inn Capitol, 550 C
Street, SW., Washington, DC 20024. Copies of the transcript of the
public hearing and public comments received will be available for
inspection at the DOE Freedom of Information Reading Room, room 1E-090,
at the address listed above, between the hours of 9 a.m. and 4 p.m.

Monday through Friday.

FOR FURTHER INFORMATION CONTACT: Mr. Elmer Holt at (202) 586-0714.

SUPPLEMENTARY INFORMATION: Under section 1605(b) of the Energy Policy Act of 1992 (EPAct; Pub. L. 102-486), the Secretary of Energy with the Energy Information Administration (EIA) is to establish a **voluntary reporting** system and database on emissions of greenhouse gases (GHGs), reductions in emissions of these gases, and carbon fixation. DOE has consulted with the Environmental Protection Agency in developing the draft guidelines, as provided under section 1605(c).

The draft guidelines and supporting methodologies provide guidance on institutional and technical aspects of the **voluntary** program. They are presented in discrete parts, as discussed below. DOE requests comment on all provisions of the draft guidelines and supporting material.

I. Background

Under section 1605 of the EPAct, two databases related to greenhouse gases are to be established. These separately address (1) the inventory of aggregate national totals of greenhouse gas emissions, and (2) data voluntarily reported on emissions, reductions, and carbon sequestration.

First, under subsection (a), the Secretary of Energy through EIA and without any expanded data collection authority is required to develop an inventory of national aggregate emissions of each greenhouse gas for each calendar year of the baseline period of 1987 through 1990. This inventory was published in September, 1993 ('`Emissions of Greenhouse Gases in the United States, 1985-1990;' DOE/EIA-0573). This inventory will be updated annually, as required by the legislation.

The **voluntary reporting** program database is required under subsection (b) of section 1605, and will consist of voluntarily reported information on annual greenhouse gas emissions and their reduction, and carbon sequestration. It is separate from the national aggregate inventory established and updated under subsection (a). Because submission of data to the program established under subsection (b) is **voluntary**, this database cannot be designed for use as a comprehensive national greenhouse gas accounting system, and thus may not serve to provide a statistically accurate representation of aggregate U.S. greenhouse gas emissions or their reductions.

The Secretary of Energy is required to issue guidelines with procedures for the accurate **voluntary reporting** of information on (1) greenhouse gas emissions on an annual basis for the baseline period 1987 through 1990, and for subsequent calendar years; (2) annual reductions of greenhouse gases and carbon fixation achieved through any measures; and (3) reductions in greenhouse gas emissions achieved voluntarily, or as a result of plant or facility closings, or as a result of State or Federal requirements.

The guidelines and supporting materials assist those who wish to report in determining or developing information necessary to report. EIA will develop and make available forms for **voluntary reporting** consistent with the final guidelines, and will develop a database for the information voluntarily submitted.

II. Public Input Process

The process for public input in developing the draft guidelines began with a Notice of Inquiry (NOI) in July 1993 (58 FR 40116; July 27, 1993), requesting comment on institutional and technical issues related to a 1605(b) **reporting** system. These comments assisted in developing the focus for discussion at six public workshops held in November and December of 1993. A summary of workshop sessions and a copy of all written comments submitted are available for public inspection in the DOE Freedom of Information Reading Room, listed in the ADDRESSES section above.

Additional public input to the guidelines is being sought through the comments requested and the public hearing announced in this notice.

III. Organization of the Draft Guidelines

The draft guidelines and supporting materials, ``**Voluntary Reporting** of Greenhouse Gases Under Section 1605(b) of the Energy Policy Act of 1992: General Guidelines and Sector-Specific Issues and **Reporting** Methodologies,'' are presented in eight discrete parts. The first part, ``General Guidelines,'' provides basic guidance for **reporting** under the program. Six parts, ``Sector Specific Issues and **Reporting** Methodologies Supporting the General Guidelines'' (or ``supporting materials'') discuss issues particular to specific sector or activity areas, as indicated: Electricity Supply, Residential and Commercial Buildings, Industrial, Transportation, Forestry, Agriculture.

The seventh supporting document, ``Global Warming Potential and Other Indices for Representing Greenhouse Gas Effects on Climate'' completes the guidelines set.

The public review draft does not include the sector-specific part on the Agriculture Sector; this document is expected to be available by the end of June. Notice of its availability for review and comment will be announced in the Federal Register.

IV. Goals of the **Voluntary Reporting** Program

The draft guidelines and supporting materials have been developed to reflect the dual goals of maximizing participation without compromising the usefulness of the data. These goals reflect public input received in response to the July 1993 Notice of Inquiry and the subsequent workshops discussed above.

Achievement of the participation goal will be measured by the numbers of **voluntary** reporters and the variety of economic sectors and activities they represent, and in the quantity of emissions and reductions and carbon sequestration reported. The draft guidelines and supporting materials assist participation by minimizing administrative burden and repetitive submissions among data acquisition programs, and by providing flexibility for the use of self-generated data with optional default and prescribed data alternatives.

Usefulness of the data is defined not only by the quality, quantity, and variety of the data included, but also by its ability to serve the varied purposes of the program. These purposes include providing a database of information for entities seeking to reduce their own greenhouse gas emissions; formal recordation of emissions, reductions and carbon sequestration achievements for various objectives; and informing the public debate in future discussions on national greenhouse gas policy.

V. Summary Description and Discussion

A. What Are The Guidelines?

The guidelines define who may report, what information may be reported, and considerations in identifying or developing reportable data. Consistent with the guidelines, EIA will develop **reporting** forms for the program, receive submissions and evaluate them for compliance with the guidelines and **reporting** instructions, and develop and maintain the database of information reported.

The guidelines suggest to reporters data identification, collection and retention needs, and address the use by reporters of information which may be part of existing recordkeeping systems or standard business practices. They also provide a framework for analyzing activities with the goal of developing reportable data. Finally, the guidelines provide information for comparing emissions of gases on the basis of their differential greenhouse (radiative forcing) effects within the climate system. This discussion on differential effects is provided for information purposes only. The guidelines provide that data reported be in units of gas emitted or reduced, and not transformed by any radiative forcing index reported.

B. What is Covered by the Guidelines?

The reporter. The guidelines define ``**reporting** entity'' flexibly in order to accommodate total organization and project **reporting**, as well as **reporting** focused on specific activities or on specific sites. A **reporting** entity, or ``reporter,'' may be any U.S. organization or individual that has taken actions which result in emissions, emissions reductions, or carbon sequestration, and that can define a project and report physical data in enough detail to quantify results of the activity. The following may report under the program: any U.S. citizen or resident alien; any company, organization, or group incorporated under or recognized by law; and any U.S. Federal, state, or local governmental entity.

Sector coverage. The guidelines may be used for all economic sectors. The supporting methodologies provide additional direction for **reporting** data on activities in the following sectors: electricity supply, residential and commercial buildings, transportation, industrial, forestry, and agriculture.

Size threshold. In order to encourage participation and to capture small-scale demonstration projects, DOE is not proposing minimum levels for participating in the **reporting** program. At the outset of the program design process, DOE assumed that the program would have a threshold level of participation to prevent overburdening EIA in managing a costly, inefficient database.

However, commenters recommended strongly that no threshold levels be set, in order to avoid unnecessary limitations that might discourage participation, particularly by those engaging in pilot projects and innovative approaches. In addition, setting threshold standards for the broad range of activities--for each gas, each sector, and for all activities within a sector--would be difficult.

DOE seeks comment on the possible need for a threshold level for participation. If thresholds are recommended, DOE requests suggestions for appropriate levels.

Direct and indirect emissions activities. The draft guidelines address activities that result in either direct or indirect emissions

and reductions of greenhouse gas emissions. Direct greenhouse gas emissions may result from activities such as fossil fuel combustion and the venting of methane. DOE acknowledges that a program with submissions limited to direct emissions, and to activities directly producing or reducing those emissions, would be more manageable and transparent than the broad, flexible approach reflected in the draft guidelines.

The statute, however, provides some examples of activities which are to be covered which indirectly affect, or may indirectly affect, emissions or reductions. Among the activities mentioned are the manufacture of vehicles with reduced greenhouse gas emissions, appliance efficiency, and energy efficiency measures.

DOE believes that Congress intended that the program cover the broadest set of activities which impact greenhouse gases, both directly and indirectly. Thus, the guidelines address both indirect and direct emissions activities, which will be appropriately distinguished in submissions. Comment is specifically requested on the proposed approach which allows **reporting** emissions and reductions from indirect and direct emitting activities, with appropriate identification of each.

Multiple party activities. The guidelines permit the **reporting** of activities undertaken in association with others. The guidelines provide suggestions to the parties for assigning the ability to report among the parties, and ask that the reporter identify others who may also report the data. Examples of multiple party activities include utility demand-side management actions, and the manufacture, sale, and use of more efficient vehicles.

Some commenters urged that the guidelines prohibit ``double **reporting**'' of the results of joint activities, in order to prevent the accounting for the same emissions, reductions or sequestration more than once. DOE agrees. Thus, while the draft guidelines permit any party to the activity to report, they require reporters to identify the other parties to the activity. In addition, the guidelines suggest ways for reporters to help protect against ``double counting.'' These methods are based on the nature of the relationship of the parties, and the comparative ability of the parties to perform adequate project analysis and to have, or have access to, necessary data. Methods suggested in the guidelines include contractual agreements.

Comment is specifically requested on the proposed approach on **reporting** multiple party activities. In particular, comment is requested on whether the guidelines and the **reporting** forms to be developed by EIA should contain additional protections against double counting.

Reporting through third parties. In order to increase participation, particularly of small reporters and small projects, the draft guidelines permit third party and aggregated **reporting**, at the reporter's discretion. For example, a trade association or other organization may, at the reporter's request, aggregate data from multiple entities. Such organizations may provide technical or administrative assistance in **reporting**, and aggregation of data may provide some degree of confidentiality of the data. However, third-party reporters may not be able to record individual achievements in the detail that individual reporters desire. The draft supporting documents provide a discussion of third-party **reporting** as it may apply in each sector, as well as a discussion of the appropriateness of third-party **reporting** for different **reporting** purposes.

The gases. The draft guidelines cover emissions of the following greenhouse gases: carbon dioxide, nitrous oxide, methane, and the

halogenated carbon substances. A more comprehensive list of greenhouse gases would include additional gases, most notably some of the conventional, or ``criteria,'' pollutants for which emissions data is collected by EPA and State agencies under various air quality programs.

Because the Act does not provide a definition of ``greenhouse gases,'' DOE has initially limited the coverage of the guidelines to those long-lived greenhouse gases specifically mentioned in the statutory provisions, or inferred to in the statutory language which provides examples of emissions reductions measures. Consistent with specific statutory language, the guidelines cover halogenated carbon substances such as CFCs.

Calculating radiative effects among different gases. The draft supporting materials for the guidelines provide methods for reporters to estimate, for their own use, the global warming potential of greenhouse gases, with a discussion of the radiative forcing system and the derivation and uncertainties of the estimates. In simplified terms, radiative forcing is the change in the balance (incoming versus outgoing) of solar and infra-red radiative energy in the troposphere (the layer of the atmosphere closest to Earth). Emitted gases have different direct radiative effects and atmospheric lifetimes. The Act requires the guidelines to establish procedures for taking into account these effects.

Because this area of science is complex and evolving, **reporting** activity results by any relative index would create an unnecessary additional burden in an area where few reporters are likely to have expertise. More importantly, the state of the science in this area is uncertain and rapidly changing; thus, any calculations performed will likely need revision. Therefore, while the draft guidelines provide information necessary for a reporter to perform these calculations, all data reported to this program will be in units of the gas emitted or reduced, and will not be transformed in **voluntary** submissions by any common radiative forcing index, such as the Global Warming Potential (GWP) index.

The draft supporting document on GWPs is based on the anticipated outcome later this year of ongoing international scientific inquiry and discussions. The Intergovernmental Panel on Climate Change Working Group I report, entitled ``Second Supplemental Report to the IPCC Scientific Assessment (1994); Radiative Forcing of the Climate System'' is scheduled to be released in November 1994. This document will provide the latest current scientific consensus on the issues of differential radiative activity of greenhouse gases.

The global warming potential supporting document will be finalized after release of the IPCC report, and will reflect that report. Since **reporting** will be by unit of gas emitted, neither the **reporting** program nor EIA forms development is dependent on this information. DOE seeks comment on this approach for assuring consistency with international scientific consensus and minimizing the immediate need for revision of guideline material.

Temporal and spatial coverage. The guidelines address **reporting** annual emissions for the historic baseline period of 1987 through 1990 (``historic baseline''), and subsequent years. The guidelines also cover the reporter's aggregate annual emissions and emissions reductions from all of its activities. Annual reductions of greenhouse gases and annual carbon sequestration, by activity and project, are also covered. Results of activities occurring outside the U.S. are covered in the same manner as those occurring within the U.S., as discussed below.

Reporters are encouraged to report and update historic baseline emissions and to report on an entity-wide (total organization) basis. The clarity and credibility of data provided by an organization will be enhanced by the optional submission of comprehensive greenhouse gas emissions data on the historic baseline and total annual emissions of the organization. While the guidelines do not require this comprehensive information to accompany reports of other, more focused data on projects and activities, reports will be identified within the database on the basis of the coverage of the submittal.

Causation. The guidelines require that reporters identify the cause for the activity resulting in greenhouse gas emission reductions. Section 1605(b) provides that the guidelines cover greenhouse gas emission reductions achieved as a result of: (1) plant or facility closings, (2) Federal or state requirements, and (3) **voluntary** reductions. Accordingly, the guidelines require reporters to identify, if appropriate, which of these factors caused the reported emissions reduction. Reports will identify the causative factor if it falls within these areas, but will not include any further information. Comment is specifically requested on the appropriateness of this limited identification of cause.

International activities. The draft guidelines provide that U.S. entities may report international activities to which they are a party if the submission meets the general **reporting** criteria. The Act is silent on the reportability of offshore activities to this program.

There is considerable interest in the potential for cooperation among firms in industrialized countries and governments, firms, or individuals in less developed countries in sequestering carbon and reducing global carbon emissions. Reporters are advised that there may be special difficulties in defining project boundaries, determining an appropriate reference case, and using appropriate estimation methods for offshore activities.

The United Nations Framework Convention on Climate Change (FCCC), Article 4, paragraph 2(A), requires some nations to take measures to mitigate climate change, and it allows the parties to implement these measures jointly with other parties. Criteria for ``joint implementation,'' as this concept is known, will be formally addressed by FCCC's Conference of the Parties in 1995. Thus, it is impossible at this time to ensure that guidelines for the **voluntary reporting** of actions taken by U.S. entities in other countries will be consistent with the eventual requirements for joint implementation under the FCCC. Accordingly, the guidelines may be updated to reflect future decisions made by the Conference of the Parties.

VI. Relationship of the **Voluntary Reporting** Program to Other Greenhouse Gas Initiatives

EPAct, which requires the establishment of the **voluntary reporting** program, was enacted on October 24, 1992. It predates several domestic initiatives designed to respond to the threat of global climate change. Some of these initiatives refer to the **voluntary reporting** program as an associated tool in implementation. This **reporting** program can be used to record emissions reductions achieved under a variety of programs that may result in reducing greenhouse gas emissions or increasing carbon sequestration, whether as a primary goal or as a secondary result.

While activities that reduce or avoid greenhouse gas emissions or sequester carbon under existing programs would be reportable, the

guidelines were not specifically designed to accommodate any particular program. Although the ability to report beneficial greenhouse gas impacts of activities may encourage activities under existing programs, the guidelines were designed to encourage **reporting** regardless of cause or motivation for an activity.

The language of section 1605(b)(1)(C) provides that the guidelines are to address **reporting** reductions achieved as a result of plant closings, and Federal and state requirements, in addition to those which result from **voluntary** actions. Thus, the guidelines do not limit submissions based on either the motivation of the parties involved or on the reason for the activity.

A. The Climate Change Action Plan

A year after passage of the Energy Policy Act of 1992, the President, with the goal of returning U.S. greenhouse gas emissions to their 1990 levels by the year 2000, released the Climate Change Action Plan (CCAP). This plan contains over forty new or expanded initiatives, most seeking **voluntary** participation. Three actions under the CCAP-- Climate Challenge, Climate Wise and the U.S. Initiative for Joint Implementation--specifically refer to participant **reporting** under section 1605(b). DOE anticipates that most accomplishments under CCAP initiatives will be reported under section 1605(b), but **reporting** is not limited to these specific activities.

The 1605(b) program is flexibly designed to accommodate broad participation consistent with the purposes of 1605(b). It was not designed to meet the accounting goals of any particular program. Some programs such as Climate Challenge and Climate Wise may need to adopt supplemental accounting procedures for the purposes of those programs.

The Climate Challenge and Climate Wise programs are designed to elicit commitments by members of the utility and industrial communities to take actions which will reduce or avoid greenhouse gas emissions. While the 1605(b) **voluntary reporting** program will provide a mechanism for recording information on those achievements, it does not provide a mechanism for registering commitments.

DOE is exploring establishment of a separate **reporting** system for the pledge portion of the commitment programs. While as yet undeveloped, that system may look similar to the **reporting** program and database established under 1605(b). This similarity, however, should not be confused as allowing commitments to be reported into the section 1605(b) database; only achievements will be part of this database and any information system developed for commitments will be distinct.

B. United States Actions Under the United Nations Framework Convention on Climate Change (FCCC)

Under the FCCC, the United States will be submitting a national communication which contains a mitigation plan of policies and measures. While data submitted to the **voluntary reporting** program may provide some limited information concerning accomplishments under U.S. measures, it is not designed to be a primary data source for communications of the United States under the FCCC.

VII. Discussion of Report Development and Analysis

The Act requires that DOE develop guidelines on procedures for four **reporting** categories: baseline emissions for the period 1987 through

1990, annual emissions, emissions reductions, and carbon sequestration activities. It also requires the procedures to take into account the differential radiative effects of each gas covered. However, it does not require that each report include all of these activities or address radiative effects. The legislation does not require that historic baseline, annual, or total organization emissions be reported as a prerequisite to **reporting** emission reductions or carbon sequestration project information.

DOE is requesting comment on the guidelines approach, which allows **voluntary** reporters to determine how comprehensive their submissions will be relative to historic baseline, annual and total organization emissions.

A. Annual and Total Organization Emissions

The guidelines encourage, but do not require, reports of annual emissions for the historic baseline period 1987-1990, and for subsequent years. In **reporting** emissions for this historic baseline period, the reporter may choose to report annual emissions for each of these years, or the average of the four years' emissions. Where adequate data exists (for example, for regulated industries such as utilities), the inclusion of emissions reports for the period 1987 through 1990, and for each subsequent year, will provide enhanced clarity to submissions on reductions and carbon sequestration projects.

The guidelines encourage annual emissions reports on a total-organization basis, covering all greenhouse gas producing activities of the reporter. However, recognizing that adequate information may not be available or may be overly burdensome to collect and analyze (in the case, for example, where an organization has multiple sites and decentralized management), the guidelines allow emissions **reporting** on a project basis. A project is variously defined, at the discretion of the reporter, as a site, an activity, or a group of activities.

B. Emissions Reduction or Increased Carbon Sequestration Projects

Reports will be accepted on a project-by-project basis as defined by the reporter. The reporter may credibly define a project at the entity level, at a subentity level (such as a plant or production line), at a supra-entity level (including, for example, joint **reporting** of the manufacture and use of fuel-efficient vehicles), or at a specific activity level (such as replacement of equipment). When defining a project, the entity must consider the amount and accuracy of available data and possible secondary effects of the project as described below.

1. Defining the Project

The draft guidelines allow reporters latitude in defining the project to be reported and in performing analyses to substantiate claimed emission reductions or carbon sequestration. This latitude extends to permitting narrow delineation of a reportable activity which does not reflect the greenhouse gas effects of all of the operations of the reporter. Some commenters stated that requiring reports to cover all greenhouse gas emitting activities of the reporter is the only way to ensure that the program records only ``real'' reductions, that is, reductions from the entity's total emissions. Other commenters pointed out that participation in the program would be unnecessarily limited by the universal imposition of significant data collection and analytic burdens. In order to achieve the goal of maximum participation, as

discussed above, the draft guidelines allow for a broad choice in designing the scope of submissions.

Project-level **reporting** provides maximum flexibility to reporters based on individual circumstances. Participation is facilitated since growing entities would be able to report, even though their total emissions are growing; and parties who do not have or cannot develop data at the total organization level will be able to report quality data on an individual project. The focus of the program on individual achievements is preserved.

DOE acknowledges that the breadth of reporter discretion permitted could result in some submissions which selectively provide only data on environmentally beneficial activities, without addressing secondary and other effects. By providing an analytic framework on project boundary definition and secondary effects, and in encouraging the submission of reports showing total organization emissions and emission reductions, the guidelines seek to minimize inappropriate use of narrow **reporting**. DOE specifically seeks comment on whether the proposed degree of flexibility provided for the scope of reports is appropriate.

2. Reporter's Data Identification, Analysis, and Certification

To encourage **voluntary reporting**, the guidelines minimize **reporting** demands, both in terms of ease and cost of data identification, collection and analysis. Three strategies have been developed to accomplish this objective:

- (a) Provide that a reporter may use, to the extent possible, information it already collects for other purposes.

- (b) Provide two paths for data analysis and report preparation: the first with detailed assistance for smaller or less analytically sophisticated reporters without adequate data or expertise, and the second with more general guidance for reporters with experience in analyzing and **reporting** the type of data sought by this program.

- (c) Accept self-certification as an adequate accuracy check for the current purposes of the program, recommending that reporters consider retaining records where they may be appropriate for future use.

- a. Using existing information. Many reporters, such as utilities and members of other regulated industries, currently collect data relevant to this program. This data may be on greenhouse gas emissions specifically, or activity parameters which can be translated to emissions. Some reporters collect data for internal purposes, for example, in order to monitor energy use or expenditures. To minimize data collection burdens, the guidelines encourage the use of existing data for submissions.

Data are collected and reported in various industrial and economic sectors under existing programs at the Federal, state, and local levels. The following discussion illustrates the types of information which will be useful for submissions under this program.

Many reports already required of utilities will readily provide relevant data. These include, for example, specific carbon dioxide emissions reports from electric utility units affected under the Clean Air Act acid rain program (40 CFR part 75). Information needed to estimate emissions of greenhouse gases is reported by all major fossil fuel electricity generating plants in several reports submitted to EIA, for example, on EIA Form 767 (fuel use by generating unit) and EIA Form 861 (utilities' net generation and sales to ultimate customers). In addition, utilities gather relevant data in order to report to public utility commissions and other state and local bodies.

For the industrial sector, examples of information useful for **reporting** include that provided to the Census Bureau via the Census of

Manufactures (CM), the Annual Survey of Manufacturers (ASM), and the Manufacturing Energy Consumption Survey (MECS). Industrial reporters may be collecting relevant data pursuant to existing programs such as the Clean Air Act requirements for halogenated substances, annual reports to the EPA Toxic Release Inventory System, and state programs such as California's Directed Inspection/Maintenance Programs. Data collected for **reporting** to the Federal Mining Safety and Health Administration and the Department of Transportation's Office of Pipeline Safety on methane may also be useful to the reporter.

In the transportation sector, reporters may have information gathered in planning and compliance activities undertaken for numerous programs, such as the corporate average fuel economy (CAFE) standards; EPCa and Clean Air Act mandates for alternative fuel use, employer carpooling and telecommuting; state-level subsidies for gasoline; and required fuel use reports by airlines and railroads.

Participants in **voluntary** programs in both the public and private sectors are or will be collecting information useful to **reporting** under this program. For example, DOE expects that data generated by participation in many initiatives under the CCAP will be reported under the EPCa 1605(b) program. Participation in private **voluntary** programs, such as trade association energy efficiency programs, will also result in participants generating data useful to **reporting**.

Ongoing Federal programs, generally concentrated at DOE and EPA but also at other agencies, afford participants the opportunity to use data generated for those programs in **reporting** under Section 1605(b). Among these are the Motor Challenge and the Golden Carrot programs. DOE's Energy Analysis and Diagnostic Center (EADC) energy audits, as well as independent energy audits, may provide data useful for the additional purpose of **reporting** here. EPA's **voluntary** programs, such as Green Lights, Natural Gas Star, Energy Star Transformers, and others, will also provide useful data.

In the forestry sector, participation in tree planting and urban forestry programs managed by agencies within the U.S. Departments of Agriculture (USDA), Interior, Transportation, and Defense, as well as by State forestry agencies, may provide useful data. Extensive physical data on land use and agricultural practices kept for and by the USDA's Soil Conservation Service and State agricultural agencies, developed for other purposes, may be useful in providing data on activities affecting greenhouse gas emissions and carbon sequestration in the agriculture sector.

b. Two paths for **reporting**. Public input into development of the draft guidelines indicated that at least two categories of reporters exist. The first includes large utilities and industrial organizations with extensive data collection programs and the capability to perform thorough organizational and project-specific analyses of activities and greenhouse gas and carbon sequestration achievements. The second category of reporters encompasses smaller entities with adequate physical information, but needing assistance in transforming this data into estimates of emissions and reductions or sequestration. To accommodate both categories of reporters, the guidelines ask reporters to provide adequate physical data about projects/activities, and provide two paths for estimating greenhouse gas emissions or carbon sequestration.

In all cases, submissions will include adequate physical data about projects; for example, how many and what type of trees were planted at a location, what quantities of materials were processed, or how many kilowatt hours were used. This information must be sufficient to derive

a gross estimate of greenhouse gas emissions or carbon sequestration results.

However, two paths are open to reporters for deriving their estimates of the effects of reported projects. The first is to develop the data and methods needed to estimate credibly and accurately project effects. A variety of tools may be used--such as computer models, actual measurements, and engineering estimates--based on the circumstances of the project and the reporter's purpose for **reporting**.

The second path for reporters is the use of default values to derive estimates. The guidelines and supporting materials provide, or give references for, emission factors, stipulated savings, equations, and other default systems to be used at the option of the reporter. While the default path is likely to produce conservative estimates (i.e., underreporting beneficial accomplishments) which are less precise than those derived from project-specific analyses, it will enhance the ability of less sophisticated reporters to report.

Identification of the types of tools used in either path will be part of the report.

c. Certification of submissions. EPA 1605(b) requires self-certification of reported data. Consistent with the Act, the guidelines provide only for self-certification by the reporter of the accuracy of the submission.

DOE considered the private and public resources necessary for various types of verification of data submitted. The goal of broad participation would be adversely affected by imposing upon reporters additional requirements for certification or verification of submitted data.

Although the draft guidelines do not go beyond the self-certification specified in the statute, other verification and certification parameters may be set by and through other greenhouse gas programs in which a reporter participates. The reporter may identify data in its submission that has been verified by a third party. In addition, reporters may wish to retain auditable data supporting their reported data, based on the anticipated uses of the data.

VIII. Discussion of the Project Analysis Approach

This section discusses the basic approach of the draft guidelines for project analysis, and of the sector-specific supporting methodologies for applying this approach.

A. What the Reporter Must Be Able To Provide

The minimum requirements for **reporting** the achievements of a project include the following:

- <bullet> Identifying information about the reporter and the project.

- <bullet> Sufficient physical data on the project for calculating emission reductions or carbon sequestration results achieved.

- <bullet> Definition of a reference case against which to measure reductions.

- <bullet> Identification of the measurement and estimation methods used.

B. **Reporting** Emissions

Reporters are encouraged to provide total organization emissions

data when **reporting** project emission reductions, as well as total project or activity emissions for the historic baseline period of 1987-1990 and subsequent years. Comprehensive **reporting** of all relevant emissions data will increase the credibility of any emission reduction reports, by providing a complete picture of the reporter's activities.

Reporters have the flexibility to determine and identify organization-wide **reporting** boundaries. The rationale for the boundaries they draw will depend, in part, upon the reasons the reporter is preparing and submitting information. If reporters are able to report emissions for their entire organization, they are encouraged to do so. Reporters do not need to report total organization emissions in order to report emission reduction and carbon sequestration projects. DOE recognizes, however, that **reporting** total emissions for a specific industrial plant, for example, may be more consistent with specific emissions reduction project elements of the report, and based on more readily available data than would a report on the organization's total emissions.

C. **Reporting** Emission Reductions or Carbon Sequestration: Project Analysis

Accurate and credible **reporting** under the EPA 1605(b) program depends upon performing good project analysis. Entities may report emission reductions and carbon sequestration for projects which they define and for which they develop a basis of emissions with and without the project. The guidelines do not provide rigid rules for such an analysis, but provide general methodologies and considerations for use by the reporter, as discussed below.

After defining the project to report, a reporter will need to address three elements of project analysis: (1) Establishment of the reference case (the basis for comparison with the project); (2) definition of the project and reference case boundaries; and (3) estimation of emissions for the reference case and the project.

These elements are interdependent. For example, the selection of a reference case will depend upon both how widely the project boundaries are drawn and what data are available to measure or estimate emissions. The extent of the reporter's analytic efforts will be based on the purposes for **reporting**.

Defining the project to be reported. A project may consist of only one activity, undertaken for its projected cost savings (such as a relighting project) or as a pilot project (such as an experimental process change); several activities, perhaps as parts of an energy efficiency program (these may include activities, such as materials processing, outside the organization); or all emission-producing activities for the organization. The definition of a project depends on factors such as how clearly the reporter draws the boundaries, how credibly it defines a basis for comparison, and how well it can measure or estimate the effects of the activities.

Step 1. Establishing the reference case. A pivotal consideration in establishing project boundaries is how well the reporter can establish a reference case--that is, an emission level against which to measure the effects of a project. A reference case is often referred to as the ``but for'' scenario, as in, ``but for this project, emissions would have been * * *.''' Two possible ways to finish this sentence are: (1) ``* * * the same as a previous year'' (the basic, or historic, reference case), or (2) ``* * * different than any previous year'' (the modified reference case, which is adjusted from historic data or

projected). Each of these cases is discussed below.

Basic (or ``historic``). Emissions from within the project boundary may be compared with the corresponding level for some previous year(s); for example, the 1987 to 1990 period, the year(s) just prior to commencement of the project, or some intervening year more indicative of normal operations. The reference case may be defined as the average annual emissions during some multiyear period or the highest or lowest annual emissions during that time. Alternatively, a single **reporting** year (e.g., 1990) could be chosen by the reporter as the reference case year.

Modified (or ``projected``). Even in the absence of the project, emissions levels may differ from past levels, for example due to growth or decline in output and changed operations. In this case, the reference case might be extrapolated with the use of models from past trends and external data to determine what emissions ``would have been`` but for the project in the year in which the project's effects are being measured. Adjustments may involve estimating the emissions per unit of production using historic or current-year data and adjusting for growth by multiplying this rate by the rate of production in the year reported.

Under the guidelines, reporters may choose between these approaches depending on the reporter's purpose for **reporting**. For many purposes, a basic reference case using an average of emissions for the years 1987 to 1990 or the annual emissions in the year before the reported year may be more appropriate than a modified reference case.

In analyzing activities of a new entity or added capacity of an existing organization, extra care in constructing a reference case is necessary. Use of industry standards or of the alternatives actually considered during planning for the new capacity will increase credibility of the reference case. Another approach is the use of a unit-production (or unit of service) reference case. For example, if an entity is adding capacity in order to increase production or service to customers, it may calculate emissions per unit or customer and show reductions based on this common standard.

Step 2. Defining project and reference case effects. The second major step in project analysis is identifying the types of effects the project had. The project may be primarily designed to reduce greenhouse gas emissions or increase carbon sequestration. It will, however, have both expected and unanticipated secondary effects. The reporter will need to address both primary and secondary effects in analyzing the project for **reporting**.

Primary effects. These are the obvious, immediate, direct and intended effects of the project, resulting in direct and indirect emissions and carbon sequestration. For example, the primary effect of an electricity conservation project is the reduction of electricity use and of the carbon dioxide emissions associated with the electricity generation avoided. The primary effect of a tree planting program is the sequestration of carbon.

Secondary effects. These are the more subtle, indirect, consequential, and perhaps unintended effects of projects. They may be positive (augmenting the primary effects) or negative (counterproductive to primary effects). Secondary effects may be large, in some cases as large as the primary effects, and include activity shifting, outsourcing, shifting emissions to different points of the life cycle, and offsetting emission reductions by residual market demand.

The guidelines ask the reporter to clearly state the primary effect

of the project and identify any significant secondary effects. If the entity is quantifying the emission reductions or carbon sequestration associated with the project, the entity should try to quantify the secondary effects, particularly those that amount to ten percent or more of the primary effects. DOE recognizes that quantifying the effects of a project can be difficult. However, the credibility of emission reduction or carbon sequestration reports may be impaired if negative secondary effects rose, or appeared capable of rising, thereby offsetting a significant portion of the reported primary effects. Ultimately, the reporter must choose the balance between increased analysis cost and increased thoroughness of the analysis, depending upon the reasons for **reporting**.

Step 3. Quantifying reference case and project effects. The guidelines provide reporters with a wide range of options for identifying input data and defining methods for quantifying the project's impact on emissions or carbon sequestration. The types of data and methods used will be reported.

First, the guidelines recognize three types of data: physical, default, and measured/engineering.

Physical data. This is information that describes the activities involved in a project. For example, how many exit lights were replaced? What was the power requirement of the old and the new lights? How many hectares of which species of tree were planted?

Default Data. This is information provided in the guidelines and supporting methodologies to assist reporters in evaluating the effects of projects. While using default data will ease **reporting** for many reporters, it is generally conservative, and may not provide the reporter's desired precision. There are two types of default data:

Emissions Factors. These are factors that allow reporters to convert information about a change in energy use to an estimated change in greenhouse gas emissions. Emissions factors for direct emissions are more precise than for indirect emissions. For example, the change in direct emissions of carbon dioxide from a reduction in methane combustion is essentially constant, regardless of when or where the change takes place. Other emission factors, particularly those for indirect emissions, are less precise. For example, the draft guidelines provide emissions factors for electricity on a state-by-state basis. However, the effect that a specific change in electricity consumption has on emissions will vary by location within the state, the time of day, and the season in which a change occurs. Generally, the draft guidelines and supporting documents contain relatively conservative figures for indirect emissions factors.

Stipulated Factors. These are factors that allow reporters to convert physical data about projects into estimates of changes in energy use, greenhouse gas emissions or carbon sequestration. The guidelines provide this information for a few types of projects where the scope and nature of the project can be clearly defined and the effects on emissions predicted with relative certainty. For example, the guidelines provide stipulated factors for converting physical data about tree planting into estimates of carbon sequestration. They also provide stipulated factors for converting information about certain energy-efficiency projects into estimates of fuel savings. These estimates can be combined with default emissions factors to estimate reductions in greenhouse gas emissions.

Reporter-Generated Data. This is information developed by the reporter and used in estimating the effects of the reporter's projects. There are two types of reporter-generated data.

Measured Data. These are data on emissions operating parameters collected directly from the project or a control group, that a reporter can use in estimating project accomplishments.

Engineering Data. These are data that reporters derive from sources such as engineering manuals, manufacturer's equipment specifications, surveys, academic literature, and professional judgment.

Standard Project. These are projects for which the draft guidelines provide the procedures and information necessary to transform physical data into emissions reductions or carbon sequestration results, relying entirely on physical and default data. A few types of projects can be described through standard project reports; these are identified in the sector-specific methodologies supporting the guidelines. Reporters must recognize that, since the default values used are conservative, the precision of their report is lessened. However, for reporters who do not have direct project measurements or experience in estimation methods, standard project methodologies will allow them to quantify the effects of these activities.

Reporter-Defined Project. These are projects that use physical and reporter-generated data, possibly in combination with default data, to estimate the accomplishments of the project. For this type of project, reporters will need to be able to clearly indicate the sources of all data, and in the case of reporter-generated data, how it was measured or derived. For reporter-defined projects, the principles and guidance are provided in the sector specific methodologies supporting the guidelines.

Estimation of reportable effects of most reporter-defined projects will require gathering basic data, and using it to derive the levels of project and reference case emissions. This may involve relatively simple calculations or complex modeling.

The guidelines suggest recording the nature of the calculations or the type/name of the model used.

In some instances, identified in the sector-specific supporting methodologies, it may not be possible to estimate emissions for both the project and the reference case. In these cases, it may be necessary for the reporter to measure the emission reductions or operating parameters directly.

IX. Significant Issues

DOE requests comment on all issues raised by the draft guidelines and supporting materials and calls particular attention to several significant issues. Commenters are requested to consider the impact of any alternative approach they suggest on the goals of encouraging broad participation and generating useful data.

(1) Is the scope of the guidelines with respect to emissions of the gases and substances specified appropriate?

(2) Should threshold **reporting** levels of emissions or carbon sequestration be set? If so, at what levels and why?

(3) Do the guidelines appropriately address and distinguish between direct and indirect emissions of the applicable gases? Are there additional ways which can address the statutory references to reportability of activities which result in direct emissions and those that result in indirect emissions?

(4) In order to report an emissions reduction or carbon sequestration project, should reporters be required to report comprehensive data on their historic (1987-1990) emissions? On their organization's total greenhouse gas emissions? From all activities in

the year covered by the project report?

(5) What categories of data derivation should be identified (e.g., measurement, engineering estimate) as appropriate to achieve the dual goals of the program?

(6) Is the approach to **reporting** activities taken in association with others appropriate for minimizing double counting while encouraging participation?

(7) How should activities outside the U.S. be handled by the **reporting** program?

(8) Is the information and approach provided on different radiative activity of gases appropriate? Should DOE delay finalizing this portion of the guidelines until completion of the current international deliberations?

X. Administrative Requirements

A. Regulatory Review

DOE has concluded that this is not a significant regulatory action because it does not meet the criteria which define such actions under Executive Order 12866, 58 FR 51735, and is therefore not subject to regulatory review. Accordingly, the Office of Management and Budget (OMB) has informed DOE that no clearance of the draft guidelines and supporting materials is required.

B. Issues Under the Paperwork Reduction Act

In addition to providing information to parties which wish to participate in **voluntary reporting**, the guidelines and supporting materials provide direction to EIA in developing the **reporting** forms and database for the program. Separate administrative requirements apply to the development of EIA **reporting** forms, which will proceed after DOE finalizes the guidelines.

Any information collection requirements proposed in EIA forms for the **voluntary reporting** program are subject to the Paperwork Reduction Act, 44 U.S.C. 3501 et seq., and will be submitted to the Office of Management and Budget for review and approval of paperwork requirements. Because the **reporting** forms developed by EIA will be necessary for participation in the program and must be consistent with the guidelines, the draft guidelines and supporting materials may involve issues relevant to subsequent review of the forms for paperwork requirements. Comments on any paperwork issues identified by the draft guidelines and supporting materials are requested.

XI. Opportunities for Public Comment

A. Public Hearing Procedures

A public hearing on the draft guidelines and supporting documents will be held at the time and place indicated in the DATES and ADDRESSES sections above. Any person who has an interest in the draft guidelines may request the opportunity to make an oral presentation. DOE reserves the right to cancel the second day of the hearing if scheduled requests to speak can be accommodated in the first day. All requests to speak should be made by telephone at the number listed in the ADDRESSES section.

DOE reserves the right to schedule speaker presentations, and to

establish procedures governing the conduct of the hearing. The length of each presentation may be limited to 5 minutes, or longer based on the number of persons requesting an opportunity to speak. Ten copies of the speaker's statement should be submitted at the hearing.

A DOE official will preside at the hearing. The hearing will be a legislative-type hearing; speakers will not be sworn in nor cross-examined. Further procedural rules needed for the proper conduct of the hearing will be announced by the presiding officer. A transcript of the hearing will be made and will be available for public inspection as indicated in the ADDRESSES section above.

B. Written Comments

Interested persons are invited to submit comments on the draft guidelines and sector-specific issues and methodologies, and on the questions presented in this notice.

Ten copies should be submitted to the address indicated in the ADDRESSES section above, and must be received by the date indicated in the DATES section of this notice. All written comments received will be available for public inspection in the DOE Freedom of Information Office Reading Room at the address provided at the beginning of this notice.

Pursuant to provisions of 10 CFR 1004.11, any person submitting information which that person believes to be confidential information and which may be exempt by law from public disclosure should submit one complete copy of the document as well as two copies from which the information claimed to be confidential has been deleted. DOE reserves the right to determine the confidential status of the information and to treat it according to its determination.

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